



SECTION 612

IMPACT ATTENUATORS

612.1 Description. This work shall consist of furnishing, installing, operating, maintaining, cleaning, relocating, replacing and removing impact attenuators as shown on the plans or as directed by the engineer in accordance with the manufacturer's recommendations.

612.2 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as shown below. Rock salt shall meet the satisfaction of the engineer.

Item	Section
Sand	1005
Retroreflective Sheeting	1042
Temporary Traffic Control Devices	1063

612.3 Safety Requirements. All impact attenuators shall be manufactured specifically for traffic control purposes and shall be in accordance with the MUTCD and any applicable safety and design codes. The contractor shall submit the manufacturer's certification that units supplied comply with crash test requirements of NCHRP 350, Test Level 3 and have received FHWA acceptance.

612.4 Construction Requirements.

612.4.1 Truck Mounted Attenuator. A truck mounted attenuator (TMA) shall be used for all moving operations conducted under traffic and as specified in the contract. Each TMA shall consist of a TMA unit, a support vehicle, and a truck-mounted flashing arrow panel. Any damaged TMA shall be removed from service and either repaired or replaced to the satisfaction of the engineer.

612.4.2 Sand Filled Impact Attenuator. Configuration, location, and relocation of the sand filled impact attenuators shall be as shown on the plans or as directed by the engineer.

612.4.2.1 Sand shall be measured and placed in accordance with the manufacturer's recommendations and weights (masses) shown for each module. Sand shall have a maximum moisture content of five percent at the time of installation. Rock salt shall be five percent of the required weight (mass) in each module, and shall be uniformly dispersed in the sand.

612.4.2.2 A decal designed as a Type I object marker with MoDOT fluorescent orange retroreflective sheeting or a Type 3 object marker with MoDOT Type 3 yellow sheeting shall be applied to the lead module facing traffic for arrays located 12 feet (3.6 m) or less from the edge of the traveled way.

612.4.2.3 Damaged or deficient modules shall be replaced by the contractor in accordance with [Sec 616.4](#).

612.4.2.4 When no longer needed, modules and sand shall be removed and shall remain the property of the contractor.

612.5 Basis of Payment.

612.5.1 Impact attenuators, including relocation, will be paid for at the contract unit price for each of the pay items included in the contract.

612.5.2 Furnishing and installing replacement sand barrels will be paid for at the contract unit price. Final payment for this item will be based on the actual number of modules replaced.